

WHAT IS CLAIMED IS:

1. A pointing device comprising:
 - a printed circuit board;
 - 5 a plurality of magnetic sensors placed on said printed circuit board;
 - an elastic member mounted on said printed circuit board to constitute a hollow for enabling sway in any desired direction;
 - 10 a rigid pushing member placed on said elastic member; and
 - a magnet mounted on said elastic member, wherein said plurality of magnetic sensors detect magnetic flux density changes caused by a sway of said magnet due to elastic deformation of said elastic member.
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2. The pointing device as claimed in claim 1, wherein said pushing member has a top whose area is greater than an area of said magnet.
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3. The pointing device as claimed in claim 1, wherein said elastic member consists of a silicone resin.
4. The pointing device as claimed in claim 1, wherein said magnet and said elastic member are replaced by a rubber magnet.
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5. The pointing device as claimed in claim 1, wherein said magnetic sensors are placed symmetrically along X axis and Y axis on a plane, and said magnet is disposed at about a center of said magnetic sensors.

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6. The pointing device as claimed in claim 1, further comprising a switch on an elastic member side surface of said printed circuit board.

10 7. The pointing device as claimed in claim 6, further comprising a protrusion formed at a portion facing said switch on said elastic member, wherein said protrusion is provided for depressing said switch.

15 8. The pointing device as claimed in claim 6, wherein said switch is a tactile switch.

9. The pointing device as claimed in claim 1, wherein said elastic member and said magnet are glued at only a center
20 of said magnet.

10. The pointing device as claimed in claim 1, wherein said elastic member has a hollow that is made in such a manner that a portion where said magnet is placed and its
25 neighborhood are made thinner than a remaining portion where said magnet is not placed.

11. The pointing device as claimed in claim 1, wherein said elastic member comprises at least one projection toward said printed circuit board in said hollow.
- 5 12. The pointing device as claimed in claim 11, wherein said projection is placed near an outer edge of said hollow.
13. The pointing device as claimed in claim 1, wherein said magnet is displaceable in a direction perpendicular
10 to said printed circuit board.
14. The pointing device as claimed in claim 1, wherein said elastic member has at least one bend that forms said hollow.
- 15 15. The pointing device as claimed in claim 14, wherein said bend includes a U grooved undercut.
16. The pointing device as claimed in claim 15, wherein
20 said U grooved undercut has a depth less than a thickness of said elastic member.
17. The pointing device as claimed in claim 14, wherein said bend of said elastic member has a chamfer or rounding.
- 25 18. The pointing device as claimed in claim 1, to which a manipulation adapter is fitted, said manipulation adapter

comprising:

a second elastic member mounted on an edge of said elastic member or on said pushing member;

a manipulation member mounted on said second elastic member; and

a second magnet mounted on said second elastic member or said manipulation member.

19. The pointing device as claimed in claim 18, wherein said second elastic member includes a second hollow to enable said manipulation member to be swayed in any desired direction; and said second magnet is mounted on said second hollow side.

20. The pointing device as claimed in claim 1, to which a manipulation adapter is fitted, said manipulation adapter comprising:

a hold-down member mounted on an edge of said elastic member or on said pushing member;

a manipulation member whose movement is restrained by said hold-down member; and

a second magnet mounted on said manipulation member.

21. A pointing device comprising:

a printed circuit board;

a plurality of magnetic sensors placed on said printed circuit board;

an elastic member mounted on said printed circuit board to constitute a hollow for enabling sway in any desired direction;

a rigid pushing member placed on said elastic member
5 to constitute said hollow together with said elastic member;
and a magnet placed on said pushing member, wherein

said plurality of magnetic sensors detect magnetic flux density changes caused by a sway of said magnet due to elastic deformation of said elastic member.

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22. The pointing device as claimed in claim 21, wherein said pushing member has a top whose area is greater than an area of said magnet.

15 23. The pointing device as claimed in claim 21, wherein said elastic member consists of a silicone resin.

24. The pointing device as claimed in claim 21, wherein said magnetic sensors are placed symmetrically along X axis
20 and Y axis on a plane, and said magnet is disposed at about a center of said magnetic sensors.

25. The pointing device as claimed in claim 21, further comprising a switch on an elastic member side surface of
25 said printed circuit board.

26. The pointing device as claimed in claim 25, further

comprising a protrusion formed at a portion facing said switch on said elastic member, wherein said protrusion is provided for depressing said switch.

5 27. The pointing device as claimed in claim 25, wherein said switch is a tactile switch.

28. The pointing device as claimed in claim 21, wherein said magnet is displaceable in a direction perpendicular
10 to said printed circuit board.

29. The pointing device as claimed in claim 21, wherein said elastic member has at least one bend that forms said hollow.
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30. The pointing device as claimed in claim 29, wherein said bend includes a U grooved undercut.

31. The pointing device as claimed in claim 30, wherein
20 said U grooved undercut has a depth less than a thickness of said elastic member.

32. The pointing device as claimed in claim 29, wherein said bend of said elastic member has a chamfer or rounding.
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33. The pointing device as claimed in claim 21, to which a manipulation adapter is fitted, said manipulation adapter

comprising:

a second elastic member mounted on an edge of said elastic member or on said pushing member;

a manipulation member mounted on said second elastic member; and

a second magnet mounted on said second elastic member or said manipulation member.

34. The pointing device as claimed in claim 33, wherein said second elastic member includes a second hollow to enable said manipulation member to be swayed in any desired direction; and said second magnet is mounted on said second hollow side.

35. The pointing device as claimed in claim 21, to which a manipulation adapter is fitted, said manipulation adapter comprising:

a hold-down member mounted on an edge of said elastic member or on said pushing member;

a manipulation member whose movement is restrained by said hold-down member; and

a second magnet mounted on said manipulation member.